Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. (Previously Presented) A method for inhibiting apoptosis in a cell, the method comprising contacting the cell with an effective amount of an apoptosis inhibitor selected from the group consisting of colostrinin, a constituent peptide of colostrinin and combinations thereof;

wherein the constituent peptide of colostrinin is selected from the group consisting of MQPPPLP (SEQ ID NO:1), LQTPQPLLQVMMEPQGD (SEQ ID NO:2), DQPPDVEKPDLQPFQVQS (SEQ ID NO:3), LFFFLPVVNVLP (SEQ ID NO:4), DLEMPVLPVEPFPFV (SEQ ID NO:5), MPQNFYKLPQM (SEQ ID NO:6), VLEMKFPPPPQETVT (SEQ ID NO:7), and LKPFPKLKVEVFPFP (SEQ ID NO: 8);

and wherein the apoptosis inhibitor inhibits apoptosis in the cell.

2. (Original) The method of claim 1 wherein the cell is present in a cell culture, a tissue, an organ, or an organism.

3. (Original) The method of claim 1 wherein the cell is a mammalian cell.

4. (Original) The method of claim 3 wherein the cell is a human cell.

5. (Previously Presented) The method of claim 1 wherein the inhibitor is colostrinin.

6. (Previously Presented) The method of claim 1 wherein the inhibitor is a constituent peptide of colostrinin selected from the group consisting of MQPPPLP (SEQ ID NO:1), LQTPQPLLQVMMEPQGD (SEQ ID NO:2), DQPPDVEKPDLQPFQVQS (SEQ ID NO:3), LFFFLPVVNVLP (SEQ ID NO:4), DLEMPVLPVEPFPFV (SEQ ID NO:5), MPQNFYKLPQM (SEQ ID NO:6), VLEMKFPPPPQETVT (SEQ ID NO:7), LKPFPKLKVEVFPFP (SEQ ID NO:8), and combinations thereof.

7. (Canceled)

8. (Previously Presented) The method of claim 1 wherein the apoptosis is due to DNA damage.

9-11. (Canceled)

12. (Previously Presented) A method for protecting against DNA damage in a cell, the method comprising contacting the cell with an effective amount of a compound selected from the group consisting of colostrinin, a constituent peptide of colostrinin, and combinations thereof;

wherein the constituent peptide of colostrinin is selected from the group consisting of MQPPPLP (SEQ ID NO:1), LQTPQPLLQVMMEPQGD (SEQ ID NO:2), DQPPDVEKPDLQPFQVQS (SEQ ID NO:3), LFFFLPVVNVLP (SEQ ID NO:4), DLEMPVLPVEPFPFV (SEQ ID NO:5), MPQNFYKLPQM (SEQ ID NO:6), VLEMKFPPPPQETVT (SEQ ID NO:7), and LKPFPKLKVEVFPFP (SEQ ID NO: 8);

and wherein the compound protects the cell against DNA damage.

13. (Original) The method of claim 12 wherein the cell is present in a cell culture, a tissue, an organ, or an organism.

14. (Original) The method of claim 12 wherein the cell is a mammalian cell.

15. (Original) The method of claim 14 wherein the cell is a human cell.

16-24. (Canceled)

25. (New) A method for inhibiting apoptosis in a cell, the method comprising

contacting the cell with an effective amount of an apoptosis inhibitor selected from the group consisting of colostrinin, a constituent peptide of colostrinin and combinations thereof;

wherein the constituent peptide of colostrinin is selected from the group consisting of SEQ ID NO:9-34;

and wherein the apoptosis inhibitor inhibits apoptosis in the cell.

26. (New) A method for protecting against DNA damage in a cell, the method comprising contacting the cell with an effective amount of a compound selected from the group consisting of colostrinin, a constituent peptide of colostrinin, and combinations thereof;

wherein the constituent peptide of colostrinin is selected from the group consisting of SEQ ID NO:9-34;

and wherein the compound protects the cell against DNA damage.

27. (New) A method for reducing the toxic effect of β-amyloid on a cell, the method comprising contacting the cell with an effective amount of a compound selected from the group of colostrinin, a constituent peptide thereof, and combinations thereof;

wherein the constituent peptide of colostrinin is selected from the group consisting of SEQ ID NO:1-34.

28. (New) A method for reducing the toxic effect of retinoic acid on a cell, the method comprising contacting the cell with an effective amount of a compound selected from the group of colostrinin, a constituent peptide thereof, and combinations thereof wherein the constituent peptide of colostrinin is selected from the group consisting of SEQ ID NO:1-34.

29. (New) A method for inducing a cytokine in a cell, the method comprising contacting the cell with an immunological regulator under conditions effective to induce a cytokine, wherein

the immunological regulator is selected from the group consisting of a constituent peptide of colostrinin and combinations thereof;

wherein the constituent peptide of colostrinin is selected from the group consisting of SEQ ID NO:9-33.

30. (New) A method for modulating an immune response in a cell, the method comprising contacting the cell with an immunological regulator under conditions effective to induce a cytokine, wherein the immunological regulator is selected from the group consisting of a constituent peptide of colostrinin and combinations thereof;

wherein the constituent peptide of colostrinin is selected from the group consisting of SEQ ID NO:9-33.

31. (New) A method of modulating an intracellular signaling molecule in a cell, the method comprising contacting the cell with an effective amount of a modulator selected from the group consisting of colostrinin, a constituent peptide of colostrinin, and combinations thereof, under conditions effective to accomplish at least one of the following:

reduce 4-hydroxynonenal (4HNE)-protein adduct formation;

inhibit 4HNE-mediated glutathione depletion;

inhibit 4HNE-induced activation of p53 protein; or

inhibit 4HNE-induced activation of c-Jun NH2-terminal kinases;

wherein the constituent peptide of colostrinin is selected from the group consisting of SEQ ID NO:9-34.

32. (New) A method of down regulating the 4-hydroxynonenal (4HNE)-mediated oxidative damage associated with lipid peroxidation in a cell, the method comprising contacting the cell with an effective amount of a modulator selected from the group consisting of colostrinin, a constituent peptide of colostrinin, and combinations thereof;

wherein the constituent peptide of colostrinin is selected from the group consisting of SEQ ID NO:9-34;

and wherein 4HNE-mediated oxidative damage associated with lipid peroxidation in the cell is down regulated.